

REMARKS

Upon entry of the Amendment, which is respectfully requested, Claims 1 and 4-11 will be pending.

Claim 1 is amended to incorporate the subject matter of Claim 3, now canceled, which is the recitation “wherein the processing mark is formed by rubbing the main surface of the glass plate with a processing tape in a circumferential direction of the glass plate, while supplying a processing fluid comprising a slurry to the main surface of the glass plate”. No new matter is added.

Claim 7 is amended to incorporate a portion of the subject matter of Claim 10, which is the definition “wherein the roughness formed in the main surface of the glass substrate is linearly arranged in a circumferential direction”. No new matter is added, and Claim 10 has been amended consistent with the Amendment to Claim 7.

Reconsideration and review of the claims on the merits are respectfully solicited.

Claim Rejections - 35 USC § 102

Claims 1, 3-9 and 11 are rejected under 35 U.S.C. §102(e) as assertedly being anticipated by each of Sakai ‘139, Miyamoto ‘634 and Sakai ‘404.

Applicants respond as follows.

Sakai ‘139 is a divisional of Sakai ‘404. Both disclose a glass substrate for use in a magnetic recording medium with specific ranges for surface roughness Ra, Rmax, and the ratio of Rmax/Ra. Hydrofluosilic acid processes the surface so that the portion having relatively high remaining distortion becomes the island (peak) in remaining stress distribution which is

generated at the portion of an abrasive trace due to the presence of abrasive grain in the polishing step of the glass member. The network of Si-O is said to be systematically and structurally changed, and nonuniformity occurs in the remaining stress distribution by the structural change. As a result, the etching rate becomes slow in the portion having relatively high remaining distortion (See Sakai '139, Abstract and col. 10, lines 1-20; see Sakai '404, Abstract and col. 9, line 61 to col. 10, line 15).

Miyamoto '634 discloses a very similar product and method as the Sakai '139 and Sakai '404 patents. In Miyamoto, the glass substrate is precisely polished by the use of polishing material containing free abrasive grain. Remaining stress distribution for a portion of a polishing trace due to the free abrasive grain is generated on the surface of the glass substrate. A surface process is performed for the surface of the glass substrate by the use of hydrosilicofluoric acid. A portion having relatively high remaining distortion in the generated remaining stress distribution is decided as an island portion (See Abstract).

However, the method of generating a residual stress before etching in the cited references is one of grinding with a free abrasive grain. The cited references merely describe that the grinding is performed by using a conventional grinding apparatus. On the other hand, the present invention claims a different process and a different product-by-process. The cited references do not disclose or suggest that the processing marks be formed in a circumferential direction by supplying a slurry to the tape, as shown in the Examples of the present specification and recited in Claim 1 as amended.

As previously stated, Claim 1 is amended to clarify this difference. Claim 1 is amended to incorporate the subject matter of Claim 3, now canceled, which is the recitation “wherein the processing mark is formed by rubbing the main surface of the glass plate with a processing tape in a circumferential direction of the glass plate, while supplying a processing fluid comprising a slurry to the main surface of the glass plate”.

In addition, Applicants emphasize that, in the product claims of the present application, the roughness is linearly arranged in a circumferential direction. As previously stated, Claim 7 is amended to clarify this structural difference.

For the aforementioned reasons, Sakai ‘139, Miyamoto ‘634 and Sakai ‘404 do not disclose, teach or suggest each and every element of Applicants’ claims.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(e).

Claim Rejections - 35 USC § 103

Claim 10 is rejected under 35 U.S.C. 103(a) as assertedly being unpatentable over Sakai ‘404, ‘139 and Miyamoto ‘634 for the reasons given in the Office Action.

The Examiner states that the applied references disclose all elements of the claimed invention except for line density as determined by AFM, concluding that it would have been obvious to modify line density in the prior art substrates, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

AMENDMENT UNDER 37 C.F.R. § 1.111

U.S. Application No. 10/015,683

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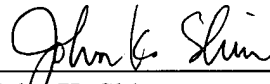
Applicants respectfully submit that this §103 rejection of Claim 10 should be reconsidered and withdrawn for the same reasons that the §102(e) rejection of Claims 1, 3-9 and 11 should be reconsidered and withdrawn.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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CUSTOMER NUMBER

Date: December 31, 2003